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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,487	01/21/2004	Peter Randall	71048.0168	9790

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EXAMINER

WRIGHT, ANDREW D

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,487

Applicant(s)

RANDALL, PETER

Examiner

Andrew Wright

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 14 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/21/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 16 is objected to. Claim 16 recites the limitation "the step of taking in local seawater as ballast" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. It is assumed that this refers to the already recited step of "exchanging seawater ballast at sea by taking in seawater as ballast...". Consistent terminology should be used to avoid confusion. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 9 is rejected under 35 U.S.C. 102(anticipated) as being anticipated by Lalonde et al. (US 4,886,607). Lalonde shows a wastewater system comprising a treatment system (36), ballast tank (38), and discharge system (66). The treatment tank (36) receives wastewater from pipe (22) and treats the wastewater by filtering via partitions (46) and screen (60). Tank (38) stores the treated wastewater. Pump (66) and discharge pipes (64, 67) discharge treated wastewater from tank (38).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lalonde et al. (US 4,886,607). Lalonde shows the apparatus described above with respect to claim 9. Lalonde does not explicitly disclose the recited method steps. The method steps, however, are inherent in the making and use of the Lalonde system. The system necessarily collects wastewater in tank (36). The system necessarily treats the wastewater via screen (60). The system necessarily stores the treated wastewater in tank (38). And the system necessarily discharges the wastewater. The stored wastewater constitutes ballast because it will have at least some effect on the trim and stability of the boat. The discharge of the wastewater is itself a ballasting operation for the same reason. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to devise the recited method steps. The motivation would be to make and use the Lalonde system.

6. Claims 1-3, 6-8, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Husain et al. (US 6,361,695) in view of Tyllila (US 6,638,420) and Wiperman (US 6,672,233). Husain discloses a shipboard wastewater treatment system that uses collection tank (6), treatment via filtering in a bioreactor (30), treatment via decontamination using UV light in disinfection unit (70), and recirculation of treated

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wastewater. Husain discloses storing the treated wastewater in sump tank (80), then dumping it as treated effluent. Tyllila teaches that there are times when treated wastewater can be discharged directly to the sea or other receiving facility and no temporary storage tank is required (column 1, lines 35-40 and column 3, lines 57-59). Tyllila also teaches that sometimes the treated wastewater cannot be immediately discharged and a temporary storage tank is needed (column 4, lines 8-11). Tyllila does not place any criticality upon the storage tank, and teaches that it can be at some other location on the vessel (column 1, lines 35-40). Wipperman teaches that ballast tanks that normally hold drinking water or sea water can also be used to hold waste water (column 6, lines 50-52). Based upon the teaching of Tyllila and Wipperman, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Husain by sending the treated waste water from sump tank (80) to a ballast tank. The motivation would be to store treated wastewater until it can be properly discharged.

7. Husain in view of Tyllila and Wipperman does not explicitly teach the recited method steps. The method steps, however, are inherent in the use of the modified system. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to devise the recited method steps. The motivation would be to make and use the modified Husain system.

8. Husain modified in view of Tyllila and Wipperman as described above contains the structural elements of claims 9 and 10. The bioreactor is a sludge and particulate removal system and Husain discloses a disinfection unit (70).

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9. Claims 4, 5, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Husain in view of Tyllila and Wipperman as applied to claim 1 above, and further in view of Tompkins et al. (US 5,932,091). Husain discloses recirculation of treated effluent. Husain does not disclose testing and re-treating based upon test results. Tompkins shows a shipboard wastewater treatment system. The system treats wastewater by filtration. After the treatment, the effluent is monitored for contaminant levels. If the contaminant level is above a certain amount, the effluent is diverted back to the beginning for re-treatment. This is common and well known in the art. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Husain by adding testing and conditional re-treatment if the treated wastewater does not meet predetermined thresholds. The motivation would be to ensure that the wastewater is properly treated and in compliance with applicable laws and regulations before it is dumped. Regarding claim 5, it is well known and common to take samples for the purpose of testing.

10. Husain modified in view of Tyllila and Wipperman and further in view of Tompkins as described above contains the structural elements of claims 11-13. Husain discloses a disinfection unit (70). Tompkins discloses a monitoring unit for testing treated wastewater. Husain discloses the use of pumps and a pump would be necessary for the recirculation. The ship will necessarily have some type of seawater ballast system, whether it be ballast tanks and pumps or a simple bilge. Tompkins discloses monitoring and sensing, and a sensor or monitor necessarily requires some port for obtaining or sensing a sample. Husain discloses ultraviolet treatment.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlich et al. (US 6,773,611) in view of Tyllila (US 6,638,420) and Wipperman (US 6,672,233). Perlich shows a ship with a ballast system. Perlich teaches that it is known to discharge ballast during port operation to balance the ship. Perlich teaches treating the normal ballast water before discharge thereof. Perlich further teaches testing the treated ballast water before discharge to make sure the treatment was effective. Perlich is silent as to wastewater. A vessel such as that contemplated by Perlich will necessarily have a wastewater system. Tyllila teaches treating wastewater, storing the treated wastewater, and discharging the treated wastewater when appropriate. Tyllila is silent as to where exactly to store the treated wastewater. Wipperman teaches that wastewater can be stored in a ballast tank. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Perlich by treating the ship's wastewater and storing the treated wastewater in a ballast tank. Furthermore, since Perlich already teaches testing the treated ballast water before discharge, it would have been obvious to one having ordinary skill in the art at the time the invention was made to test the treated wastewater before discharge. The motivation would be to store the treated wastewater at times when discharge is inappropriate, and to avoid discharging treated wastewater that does not meet cleanliness or environmental rules and regulations. The method steps recited in claim 15 are inherent in the modified invention of Perlich in view of Tyllila and Wipperman. The ship's captain will necessarily have to decide if the treated wastewater and the treated ballast water is

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fit for discharge during port operations. It would be obvious to not discharge the treated wastewater if the tested level of the treated wastewater did not meet threshold levels of applicable rules and regulations. And it would be obvious to instead discharge treated ballast water because the ship necessarily needs to be balanced during the port operations. The motivation to make these decisions would be to balance the ship by ballast operations during cargo loading and offloading, and to comply with applicable rules and regulations while doing so.

Allowable Subject Matter

12. Claims 14 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any inquiry concerning this communication should be directed to examiner Andrew D. Wright at telephone number (703) 308-6841. The examiner can normally be reached Monday-Friday from 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S. Joe Morano, can be reached at (703) 308-0230. The fax number for official communications is 703-872-9306. The fax number directly to the examiner for unofficial communications is 703-746-3548.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andrew D. Wright
Patent Examiner
Art Unit 3617

Ar 9-2-04
**ANDREW D. WRIGHT
PRIMARY EXAMINER**